

REMARKS

The above amendments to the above-captioned application along with the following remarks are being submitted as a full and complete response to the Office Action dated October 10, 2007. In view of the above amendments and the following remarks, the Examiner is respectfully requested to give due reconsideration to this application, to indicate the allowability of the claims, and to pass this case to issue.

Status of the Claims

As outlined above, claims 1-13 stand for consideration in this application. All amendments to the application are fully supported therein. Applicants hereby submit that no new matter is being introduced into the application through the submission of this response.

Allowed Subject Matter

Claims 6-7 would be allowed after being rewritten into independent form to include all limitations of the base claim and any intervening claims.

Prior Art Rejections

Under 35 U.S.C. §103(a), the Examiner rejected claims 1-5 and 10-13 as being unpatentable over newly cited Higuchi (US Patent No. 6,827,460) in view of Masaki et al. (US Publication No. 2002/0033915); rejected claim 8 as being unpatentable over Higuchi '460 in view of Masaki '915 and further in view of Kuroiwa et al. (US Patent No. 6,317,180); and rejected claim 9 over Higuchi '460 in view of Masaki '915 and further in view of Satoh et al. (US Patent No. 5,847,795). In addition, the Examiner rejected claims 1 and 10-12 under 35 U.S.C. §103(a) over the newly-cited Ouderkirk et al. (US Patent No. 6,804,058) in view of Masaki '915. Applicants have reviewed the above-noted rejections, and hereby respectfully traverse for the reasons set forth below.

The liquid crystal display device of the present invention (for example, the embodiment depicted in Fig. 4), as now recited in claim 1, comprises: a transmissive type liquid crystal display panel which sandwiches a liquid crystal layer 3 between a pair of substrates 1, 2; and a backlight arranged at a back face of the liquid crystal display panel and having a light source 9 and a reflector 8. The liquid crystal display device is configured to simultaneously perform as a transmissive display which transmits a light 20 from the light source 9 therethrough and as a reflective display which reflects an external light 21/28

incident from a front face side of the liquid crystal display panel by the reflector 8. A polarizer 6 is arranged between the back-face-side substrate 1 of the pair of substrates and the backlight, the polarizer 6 is formed to absorb polarized light having a predetermined polarization direction. At least two or more light diffusion layers 10, 11 are arranged between the back-face-side substrate 1 of the pair of substrates and the reflector 8 of the backlight to substantially diffuse the external light 21/28 and minimize a shade 32 from being viewed from an oblique direction (“hardly apparent” p. 20, lines 9-11; Fig. 2: invention hardly any shade vs. Figs. 9-11: prior art with a shade; p. 18, 2nd paragraph; page 6), the at least two or more light diffusion layers 10, 11 include a first diffusion layer and a second diffusion layer. A prism sheet 13 is arranged between the first diffusion layer and the second diffusion layer.

The invention of claim 5 is directed to the liquid crystal display device of claim 1, further comprising a light guide body 7 which is arranged at a back face side of the liquid crystal display panel and on which the light from the light source is incident.

“By sufficiently diffusing the external light 28 using two light diffusion layers 10, 11 in this manner, it is possible to make the shade 32 hardly apparent. Further, even when the shade is reflected on the light diffusion layer 10 instead of the reflector 8, since the sufficient diffusion is ensured, the visibility is not adversely affected. To ensure the sufficient diffusion of light, it is effective to make the light diffusion layers 10, 11 and the reflector 8 sufficiently spaced apart from each other (p. 20, lines 9-18).”

Applicants respectfully contend that the cited references and their combination do not teach or suggest such a liquid crystal display device (1) “being configured to simultaneously perform as a transmissive display which transmits a light 20 from the light source 9 therethrough and as a reflective display which reflects an external light 21/28 incident from a front face side of the liquid crystal display panel by the reflector 8,” and “having at least two or more light diffusion layers 10, 11 arranged between the back-face-side substrate 1 of the pair of substrates and the reflector 8 of the backlight to substantially diffuse the external light 21/28 and minimize a shade 32 from being viewed from an oblique direction” as in the present invention.

As admitted by the Examiner (p. 3, last paragraph and p. 7, 4th paragraph of the outstanding Office Action), both of the primary references Higuchi and Ouderkirk fail to disclose a light diffuser including two diffusion layers and a prism sheet arranged as the present invention.

Masaki's light diffusion film 25, lens film 40 and protective diffusion film 10 (Fig. 4, [00701]) were relied upon by the Examiner to provide the teachings. However, the alleged light diffuser of Masaki is configured to facilitate only in a transparent display mode 133 ([0003]), but not in any reflective display mode. In particular, Masaki's protective diffusion film 10 (Fig. 4; [0070]) is provided on the light outgoing surface side of the lens film 40 to prevent an unfavorable phenomenon such that, when the prism 40a in the lens film 40 comes into direct contact with the liquid crystal display device 33. As known to one skilled in the art, the components of Masaki's light diffuser are so arranged to enable transmitting a light from the light source through the liquid crystal display device ONLY, but not in any way "to reflect an external light incident from a front face side of the liquid crystal display panel by the reflector and to substantially diffuse the external light and minimize a shade from being viewed from an oblique direction" as the present invention.

As such, even if one skilled in the art were motivated to combine the alleged light diffuser of Masaki into Higuchi or Ouderkirk as asserted by the Examiner, or even if to combine the alleged light diffuser of Masaki into AAPA (Figs. 9-11 of the specification), the components of Masaki's diffuser simply are not arranged as the one of the present invention "to reflect an external light incident from a front face side of the liquid crystal display panel by the reflector *and* to substantially diffuse the external light and minimize a shade from being viewed from an oblique direction."

As mentioned in the specification (p. 8, last paragraph), AAPA does not recognize or study the drawbacks with respect to the shade 32 such that AAPA were not motivate to arrange the components of the diffuser "to reflect an external light incident from a front face side of the liquid crystal display panel by the reflector *and* to substantially diffuse the external light and minimize a shade from being viewed from an oblique direction" as the present invention. The cited references share the same deficiencies as AAPA.

Although the invention applies the general combination of one reflector and at least two light diffusion layers, the invention applies them in "a liquid crystal display device configured to simultaneously perform as a transmissive display which transmits a light 20 from the light source 9 therethrough and as a reflective display which reflects an external light 21/28 incident from a front face side of the liquid crystal display panel by the reflector 8, to achieve unexpected results or properties. For example, to reflect an external light incident from a front face side of the liquid crystal display panel by the reflector *and* to substantially diffuse the external light and minimize a shade from being viewed from an

oblique direction. The presence of these unexpected properties is evidence of nonobviousness. MPEP§716.02(a).

“Presence of a property not possessed by the prior art is evidence of nonobviousness. In re Papesch, 315 F.2d 381, 137 USPQ 43 (CCPA 1963) (rejection of claims to compound structurally similar to the prior art compound was reversed because claimed compound unexpectedly possessed anti-inflammatory properties not possessed by the prior art compound); Ex parte Thumm, 132 USPQ 66 (Bd. App. 1961) (Appellant showed that the claimed range of ethylene diamine was effective for the purpose of producing " 'regenerated cellulose consisting substantially entirely of skin' " whereas the prior art warned 'this compound has 'practically no effect.' ").

Although “[t]he submission of evidence that a new product possesses unexpected properties does not necessarily require a conclusion that the claimed invention is nonobvious. In re Payne, 606 F.2d 303, 203 USPQ 245 (CCPA 1979). See the discussion of latent properties and additional advantages in MPEP § 2145,” the unexpected properties were unknown and non-inherent functions in view of AAPA and the cited references, since they do not inherently achieve the same results. In other words, these advantages would not flow naturally from following the teachings of the prior art, since the prior art fails to suggest arranging the components “to reflect an external light incident from a front face side of the liquid crystal display panel by the reflector *and* to substantially diffuse the external light and minimize a shade from being viewed from an oblique direction” as the present invention.

Applicants further contend that the mere fact that one of skill in the art could rearrange the prior art to meet the terms of the claims is not by itself sufficient to support a finding of obviousness. The prior art must provide a motivation or reason for one skilled in the art to provide the unexpected properties, such as to reflect an external light incident from a front face side of the liquid crystal display panel by the reflector *and* to substantially diffuse the external light and minimize a shade from being viewed from an oblique direction, without the benefit of appellant's specification, to make the necessary changes in the reference device. *Ex parte Chicago Rawhide Mfg. Co.*, 223 USPQ 351, 353 (Bd. Pat. App. & Inter. 1984). MPEP§2144.04 VI C.

Applicants contend that neither AAPA, the cited references, nor their combinations teaches or discloses each and every feature of the present invention as disclosed in independent claims 1 and 5. As such, the present invention as now claimed is distinguishable and thereby allowable over the rejections raised in the Office Action. The withdrawal of the outstanding prior art rejections is in order, and is respectfully solicited.

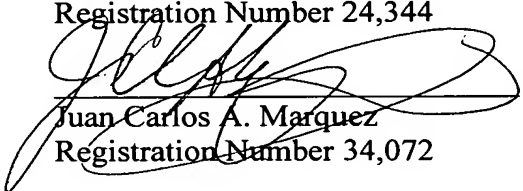
Conclusion

In view of all the above, Applicants respectfully submit that certain clear and distinct differences as discussed exist between the present invention as now claimed and the prior art references upon which the rejections in the Office Action rely. These differences are more than sufficient that the present invention as now claimed would not have been anticipated nor rendered obvious given the prior art. Rather, the present invention as a whole is distinguishable, and thereby allowable over the prior art.

Favorable reconsideration of this application as amended is respectfully solicited. Should there be any outstanding issues requiring discussion that would further the prosecution and allowance of the above-captioned application, the Examiner is invited to contact the Applicants' undersigned representative at the address and telephone number indicated below.

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April 10, 2008

SPF/JCM/JT